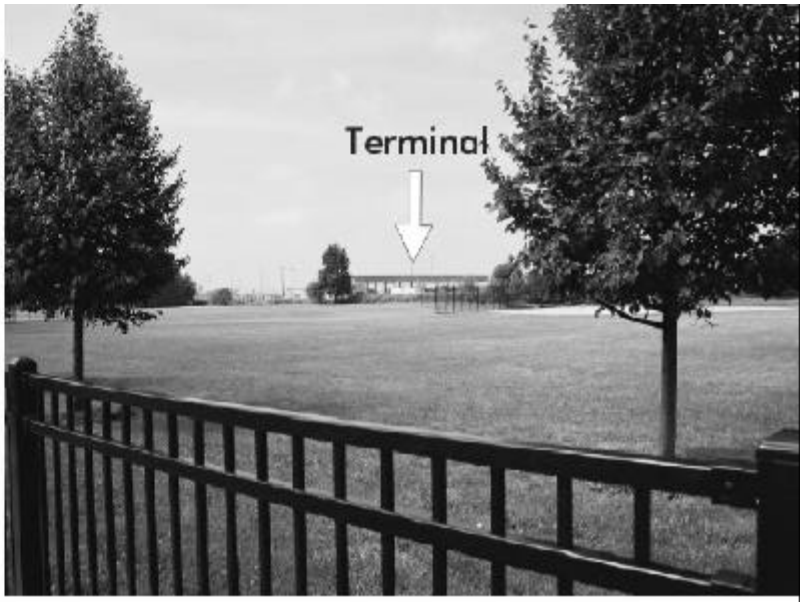


SOURCE: The Tioga Group

Figure 2-9
CSX's Chicago 59th Street Terminal
Views From Outside to Inside

Figure 2-10
Chicago's Corwith Terminal
View of Neighborhood
Immediately Surrounding Terminal

SOURCE: The Corradino Group of Michigan, Inc.

Figure 2-11
Housing Value Changes
Around Chicago's 59th Street Intermodal Terminal

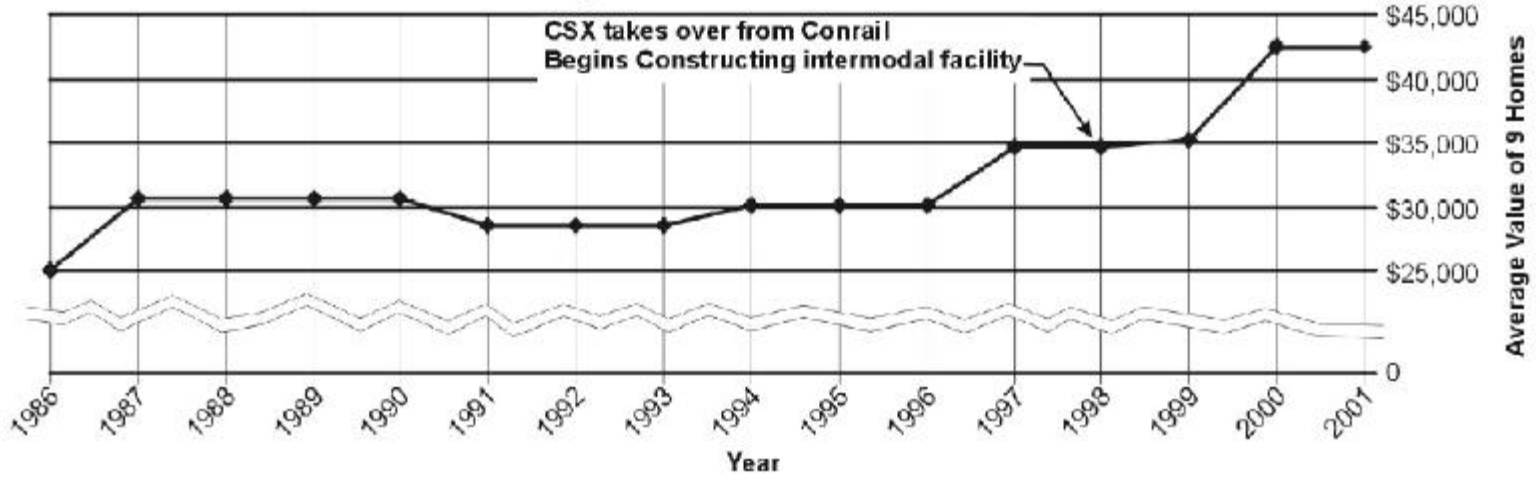
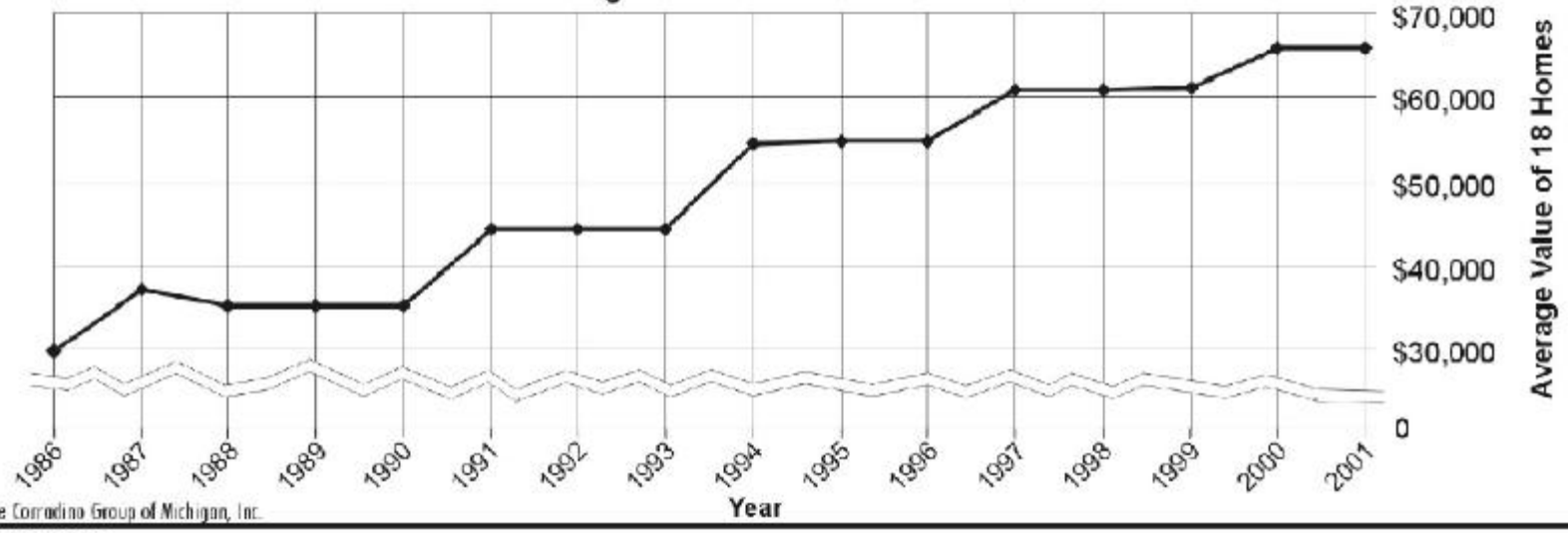


Figure 2-12
Housing Value Changes
Around Chicago's Corwith Intermodal Terminal



SOURCE: The Corradino Group of Michigan, Inc.

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Table 2-4
National Ambient Air Quality Standards

Pollutant	Standard Value		Standard Type
Carbon Monoxide (CO)			
1-hour Average	35 ppm	(40 mg/m^3)**	Primary
8-hour Average	9 ppm	(10 mg/m^3)**	Primary
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	0.053 ppm	(100 μg/m^3)**	Primary & Secondary
Ozone (O_3)			
1-hour Average*	0.12 ppm	(235 μg/m^3)**	Primary & Secondary
Particulate < 10 micrometers (PM-10)			
Annual Arithmetic Mean	NA	50 μg/m^3	Primary & Secondary
24-hour Average		150 μg/m^3	Primary & Secondary
Particulate < 2.5 micrometers (PM-2.5)			
Annual Arithmetic Mean	NA	15 μg/m^3	Primary & Secondary
24-hour Average		65 μg/m^3	Primary & Secondary

Source: U.S. Environmental Protection Agency.

* The ozone 1-hour standard applies only to areas that were designated nonattainment when the ozone 8-hour standard was adopted in July 1997. This does not include the Detroit area. This provision allows a smooth, legal, and practical transition to the 8-hour standard.

** Parenthetical value is an approximately equivalent concentration.

NA - Not applicable.

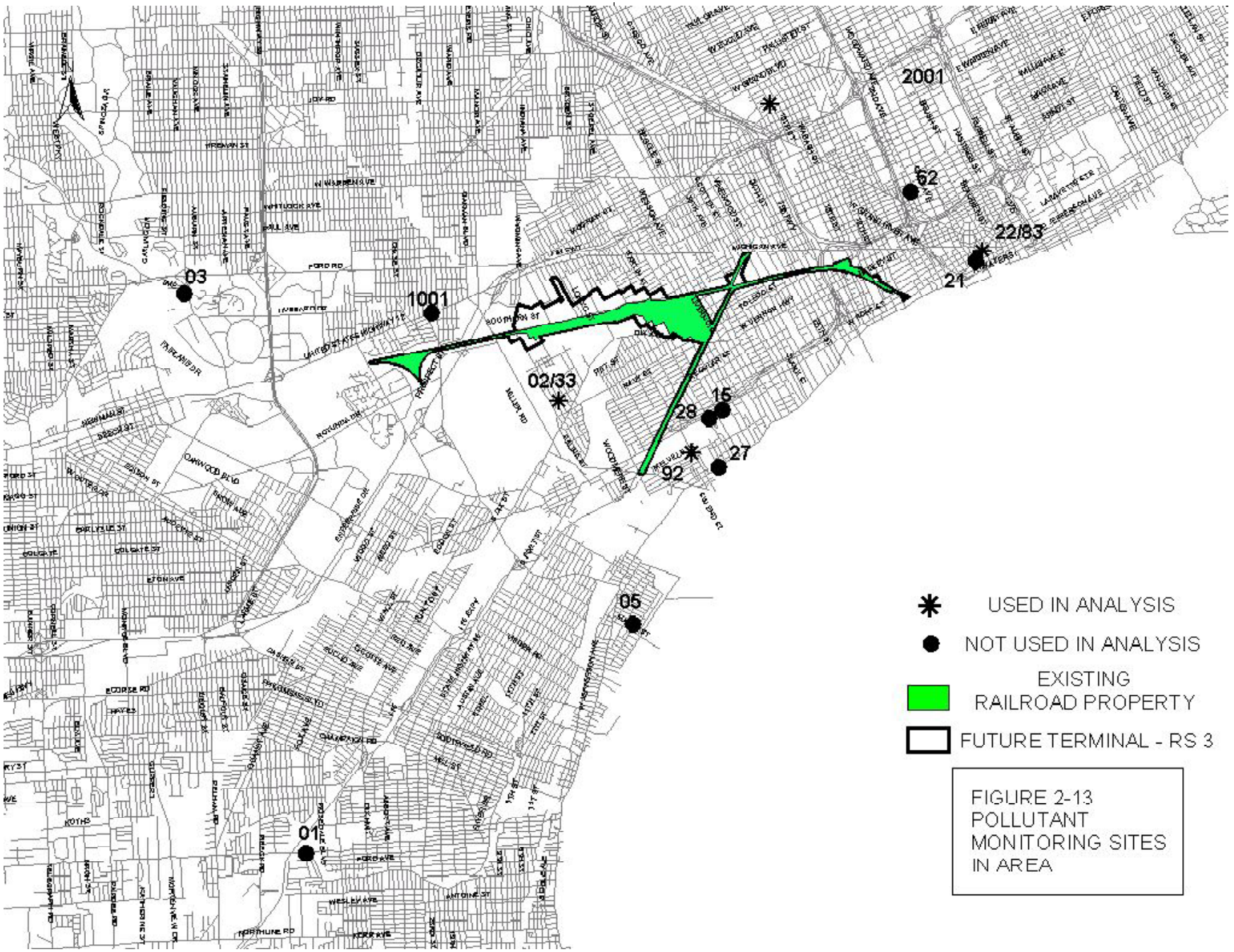

FIGURE 2-13
POLLUTANT
MONITORING SITES
IN AREA

Table 2-5
Air Quality Monitoring Stations

Site ID	City	Address	Pollutant	Years Reported	Status in Analysis
26-163-0001	Aden Park		CO	1973-2000	Far from study area
			NO2	1982-1984	
			03	1980-2000	
			PM-2.5	1999-2000	
			PM-10	1987-2000	
			SO2	1972-1998	
26-163-0002	Dearborn		PM-10	1987-1990	See Sta. 26-163-0033
			SO2	1981-1990	
26-163-0003	Dearborn		SO2	1972-1983	Different pollutant
26-163-0005	River Rouge		PM-10	1987-2000	Far from study area
			SO2	1972-2000	
26-163-0015	Detroit		PM-2.5	1999-2000	Used
			PM-10	1987-2000	Used
			SO2	1972-2000	Different pollutant
26-163-0016	Detroit		CO	1972-2000	Used
			NO2	1975-2000	Used
			O3	1980-2000	Used
			PM-2.5	1999-2000	Used
			SO2	1972-2000	Different pollutant
26-163-0021	Detroit		CO	1977-1988	Limited data
26-163-0022	Detroit		CO	1976-1979	See Sta. 26-163-0083
26-163-0027	Detroit		CO	1987-1989	Limited data
			SO2	1982-2000	Different pollutant
26-163-0028	Detroit		PM-10	1985-1986	Limited data
26-163-0033	Dearborn		PM-2.5	1999-2000	Used
			PM-10	1990-2000	Used
			SO2	1990-2000	Different pollutant
26-163-0062	Detroit		CO	1991-1997	Limited data
			NO2	1993	Limited data
			O3	1993	Limited data
			SO2	1991-1997	Different pollutant
26-163-0083	Detroit		CO	1988-2000	Used
26-163-0092	Detroit		PM-10	1986-2000	Used
			SO2	1990-1998	Different pollutant
26-163-1001	Dearborn		NO2	1973-1975	Limited data
			SO2	1970-1975	Limited data
26-163-2001	Detroit		NO2	1973-1977	Limited data
			SO2	1964-1977	Limited data

The airshed analysis produces results that indicate for all currently monitored pollutants, the standards of today, carried forward to 2025, will not be exceeded except for the Annual Arithmetic Mean for PM 2.5 (Table 2-6). This condition is not caused by the DIFT which adds little to the ambient/background conditions. It is caused by the assumption that today's ambient air quality will remain unchanged in the future and that sources producing particulate matter now in existence will continue unabated into the future. This will not likely be the case at the Ford Rouge Plant, now under renovation. And, that is clearly not the case with a significant particulate generator—the diesel engine. EPA's recently-enacted standards will significantly lower diesel emissions from heavy-duty trucks and locomotives. Furthermore, EPA has mandated that by 2007 diesel fuel will be 97 percent sulfur-free. These changes have only been accounted for at the rail terminal NOT for the background traffic.

It is noted that NO_2 in the local area will double because of rail terminal activity. NO_2 is a precursor of ozone. However, because it takes a long time for ozone to form in the atmosphere, the locally-generated NO_2 will have an effect miles downwind and at a time later than when it is produced. As Table 2-6 indicates, ozone in the local area does not exceed the 1-hour standard.

One final note is that while EPA is now applying a 1-hour standard for ozone, it has not been allowed to apply an 8-hour standard which it has formulated. Data collected only for the last five years indicate the 8-hour standard is now exceeded in the local area. So, if this ambient condition is carried forward into the future and the 8-hour ozone standard is applied, it will be exceeded in 2025. But, the terminal area emissions do not cause this condition.

These results were reviewed with US EPA. It was determined by the consultant from those discussions that the forecast of DIFT contributions to the ambient air quality are reasonable. Again, DIFT activity would not cause any standard to be exceeded.

Regional Analysis

In Rail Strategy 3, more than 5,000 trucks could be diverted from local (about 3,830 truck trips daily, at an average of five miles per trip) and regional travel (about 1,275 truck trips per day at an average of 60 miles per trip). These effects are expected to offset more than 50 percent of the pollutant burden generated by consolidating intermodal freight activities at the DIFT (Table 2-7).

Rail Strategy 2 will be a less ambitious consolidation approach. Its regional effects on pollutant reductions are also less than RS 3 because fewer trucks would be diverted from local and regional trips (about 1,360 local trips per day at an average of five miles per trip and about 125 regional trips diverted daily at an average of 60 miles per trip). RS 2 would offset only about nine percent of the pollutant burden generated by rail consolidation (Table 2-7).

Table 2-6
Detroit Intermodal Freight Terminal Project
Air Quality Analysis (Concentrations) (2025)
Local Area

Site ID	Address	Back-ground (ppm)	Back-ground as % of Standard	DIFT Rail Strategy 1 (ppm)	DIFT Rail Strategy 2 (ppm)	DIFT Rail Strategy 3 (ppm)	Rail 1 + Background	Rail 2 + Background	Rail 3 + Background	Rail 1 + Background as % of Standard	Rail 2 + Background as % of Standard	Rail 3 + Background as % of Standard
CO - 1 Hr. - Standard is 35 ppm												
16	6050 Linwood Avenue	8.2	22.4%	0.159	0.217	0.276	8.359	8.417	8.476	23.9%	24.0%	24.2%
83	Fort Street at Griswold	6.5	18.6%	0.393	0.479	0.532	6.893	6.979	7.032	19.7%	19.9%	20.1%
NA	Wilson Playground	7.4	21.1%	0.400	0.476	0.592	7.750	7.826	7.942	22.8%	22.5%	22.6%
NA	Dix at Springwells	7.4	21.1%	0.452	0.470	0.615	7.802	7.820	7.965	22.4%	22.5%	22.9%
NA	Livernois north of Kronk	7.4	21.1%	0.400	0.518	0.691	7.750	7.868	8.041	22.3%	22.6%	23.1%
CO - 8 Hr. - Standard is 9 ppm												
16	6050 Linwood Avenue	4.7	52.2%	0.081	0.100	0.151	4.781	4.800	4.851	53.1%	53.3%	53.9%
83	Fort Street at Griswold	4.1	45.6%	0.069	0.083	0.083	4.169	4.183	4.183	46.3%	46.5%	46.5%
NA	Wilson Playground	4.1	45.6%	0.150	0.202	0.250	4.250	4.302	4.350	47.2%	47.8%	48.3%
NA	Dix at Springwells	4.1	45.6%	0.198	0.293	0.229	4.298	4.393	4.329	47.8%	48.8%	48.1%
NA	Livernois north of Kronk	4.1	45.6%	0.125	0.178	0.292	4.225	4.278	4.392	46.9%	47.5%	48.8%
NO2 - Annual - Standard is 0.053 ppm												
16	6050 Linwood Avenue	0.0239	46.1%	0.0022	0.0028	0.0040	0.0261	0.0267	0.0279	49.2%	50.4%	52.6%
NA	Wilson Playground	0.0211	39.8%	0.0056	0.0064	0.0232	0.0267	0.0275	0.0443	50.4%	51.9%	83.6%
NA	Dix at Springwells	0.0211	39.8%	0.0100	0.0118	0.0237	0.0311	0.0329	0.0448	58.7%	62.1%	84.5%
NA	Livernois north of Kronk	0.0211	39.8%	0.0096	0.0118	0.0209	0.0307	0.0329	0.0420	57.9%	62.1%	79.3%
Ozone - 1-Hr. Standard is 0.12 ppm												
16	6050 Linwood Avenue	0.092	76.7%	0.0005	0.0006	0.0006	0.0925	0.0926	0.0926	77.1%	77.2%	77.2%
NA	Wilson Playground	0.098	81.7%	0.0025	0.0034	0.0083	0.1005	0.1014	0.1063	83.8%	84.5%	88.6%
NA	Dix at Springwells	0.098	81.7%	0.0027	0.0029	0.0071	0.1007	0.1009	0.1051	83.9%	84.1%	87.6%
NA	Livernois north of Kronk	0.098	81.7%	0.0026	0.0032	0.0042	0.1006	0.1012	0.1022	83.8%	84.3%	85.2%

Table 2-6 (continued)
Detroit Intermodal Freight Terminal Project
Air Quality Analysis (Concentrations) (2025)
Local Area

Site ID	Address	Back-ground (ug/m^3)	Back-ground as % of Standard	DIFT Rail Strategy 1 (ug/m^3)	DIFT Rail Strategy 2 (ug/m^3)	DIFT Rail Strategy 3 (ug/m^3)	Rail 1 + Background	Rail 2 + Background	Rail 3 + Background	Rail 1 + Background as % of Standard	Rail 2 + Background as % of Standard	Rail 3 + Background as % of Standard
PM 2.5 - Annual. - Standard is 15 ug/m^3												
15	6921 West Fort Street	18	120.0%	0.02	0.02	0.02	18.02	18.02	18.02	120.2%	120.2%	120.2%
33	2842 Wyoming Avenue	20	133.3%	0.02	0.02	0.02	20.02	20.02	20.02	133.5%	133.5%	133.5%
NA	Wilson Playground	20	133.3%	0.06	0.05	0.18	20.06	20.05	20.18	133.7%	133.7%	134.5%
NA	Dix at Springwells	20	133.3%	0.11	0.10	0.18	20.11	20.10	20.18	134.1%	134.0%	134.5%
NA	Livernois north of Kronk	20	133.3%	0.11	0.09	0.16	20.11	20.09	20.16	134.1%	134.0%	134.4%
PM 2.5 - 24-Hr. - Standard is 65 ug/m^3												
15	6921 West Fort Street	48	73.8%	0.16	0.16	0.16	48.16	48.16	48.16	74.1%	74.1%	74.1%
33	2842 Wyoming Avenue	50	76.9%	0.12	0.12	0.12	50.12	50.12	50.12	77.1%	77.1%	77.1%
NA	Wilson Playground	50	76.9%	0.30	0.23	0.74	50.30	50.23	50.74	77.4%	77.3%	78.1%
NA	Dix at Springwells	50	76.9%	0.45	0.35	0.51	50.45	50.35	50.51	77.6%	77.5%	77.7%
NA	Livernois north of Kronk	50	76.9%	0.53	0.39	0.54	50.53	50.39	50.54	77.7%	77.5%	77.8%
PM 10 - Annual. - Standard is 50 ug/m^3												
15	6921 West Fort Street	38	76.0%	0.09	0.03	0.04	38.09	38.03	38.04	76.2%	76.1%	76.1%
33	2842 Wyoming Avenue	41	82.0%	0.08	0.03	0.06	41.08	41.03	41.06	82.2%	82.1%	82.1%
92	8022 Melville Street	43	86.0%	0.08	0.02	0.03	43.08	43.02	43.03	86.2%	86.0%	86.1%
NA	Wilson Playground	26	51.2%	0.12	0.05	0.18	25.72	25.65	25.78	51.4%	51.3%	51.6%
NA	Dix at Springwells	26	51.2%	0.27	0.10	0.18	25.87	25.70	25.78	51.7%	51.4%	51.6%
NA	Livernois north of Kronk	26	51.2%	0.33	0.09	0.16	25.93	25.69	25.76	51.9%	51.4%	51.5%
PM 10 - 24-Hr. - Standard is 150 ug/m^3												
15	6921 West Fort Street	108	72.0%	0.82	0.20	0.26	108.82	108.20	108.26	72.5%	72.1%	72.2%
33	2842 Wyoming Avenue	115	76.7%	0.53	0.16	0.33	115.53	115.16	115.33	77.0%	76.8%	76.9%
92[1]	8022 Melville Street	146	97.3%	0.62	0.16	0.22	146.62	146.16	146.22	97.7%	97.4%	97.5%
NA	Wilson Playground	89	59.2%	0.81	0.23	0.74	89.64	89.07	89.57	59.9%	60.0%	59.8%
NA	Dix at Springwells	89	59.2%	1.33	0.35	0.51	90.16	89.18	89.34	60.2%	59.7%	58.7%
NA	Livernois north of Kronk	89	59.2%	1.77	0.39	0.54	90.60	89.22	89.37	60.5%	59.6%	59.6%

Source: Huff and Huff

[1]The background data point appears anomalous; it is almost double the average of 80 ug/m^3 for the previous 15 years. In that time the highest reading was 136 ug/m^3 in 1987; it has not exceeded 90 ug/m^3 from 1989 to 1999.

Table 2-7
Annual Pollutant Burden Offset (metric tons)
Associated with Truck Trip Diversion
Regional Analysis

Rail Strategy 2

Pollutant Reduction / Pollutant Type	SEMCOG Region	Crosstown & Local	Idling	Total Savings	DIFT Burden	Increase w/DIFT	Percent Reduction
HC	2	5	1	8	65	57	12.3%
CO	15	28	6	49	443	394	11.1%
NOx	21	16	3	40	533	493	7.5%
PM	0	1	0	1	20	19	5.0%
Totals	38	50	10	98	1061	963	9.2%

Rail Strategy 3

Pollutant Reduction / Pollutant Type	SEMCOG Region	Crosstown & Local	Idling	Total Savings	DIFT Burden	Increase w/DIFT	Percent Reduction
HC	26	14	3	43	65	22	66.2%
CO	153	78	22	253	443	190	57.1%
NOx	219	46	13	278	533	255	52.2%
PM	1	1	1	3	20	17	15.0%
Totals	399	139	39	577	1061	484	54.4%

Source: Arbor Vista Transportation and The Corradino Group of Michigan, Inc.

3. Consultant's Position

This chapter contains the consultant's conclusions on proposed roadway alternatives, a review of an alternative proposal, and the consultant's conclusion on rail terminal expansion.

3.1 Conclusions on Roadway Proposals

3.1.1 Perimeter Road and Truck-Only Road

Based upon the analysis of both roadway and rail issues presented earlier, the consultant has concluded the following. If the Detroit Intermodal Freight Terminal is to reach its ultimate size as defined in the refined Rail Strategy 3 (840 acres), then both the project and the community's needs are best addressed by developing the perimeter road ($10 million, excluding right-of-way) (Table 3-1). Likewise, the ability to lessen impacts that could otherwise occur from a major expansion of the intermodal terminal on neighborhood streets is improved by the truck-only road ($40 to $46.3 million, exclusive of right-of-way) (Figures 3-1 and 3-2). Both of these projects have transportation, socioeconomic and environmental benefits. However, the truck-only road with Rail Strategy 2 is not considered a cost-efficient investment. The total growth in DIFT truck traffic from the No-Action condition (RS 1) to Rail Strategy 2 is about 2,400 trips a day of which no more than about 120 will use the truck-only road in the peak hour. This degree of diversion is not socially/environmentally significant as it would provide little relief of traffic on city streets. Spending $40+ million for so little relief is not a sound investment.

It might be argued the cost of the truck-only road can be avoided by letting DIFT trucks use the street system and mandating that they not travel on Livernois and Dragoon. If you can mandate the use of the truck-only road, can't you mandate that trucks use only certain streets? These situations are different. Trucks that enter and leave the terminal can be directed physically to use the truck-only road because they are "captive" to the system. However, releasing trucks from the terminal to the surface street system at Livernois and trying to force them to go only in certain directions will be practically unachievable. A case in point is that the current restriction on Livernois of "no trucks after 7 p.m." is regularly ignored.

Another consideration might be to avoid the truck-only road by forcing all activity from Gates C/D and F/G onto the perimeter road and directing them, and DIFT traffic from Gates H/I, to use Wyoming Avenue then other streets to access I-94. However, this large amount of activity (13,941 out of 15,838 trucks each day) shifts the problem to an area which cannot absorb all this traffic. There would be impacts around Addison and the neighborhood on the north side of I-94. And, the roads/interchange at I-94 and the Ford/Oakman/Michigan/Wyoming area would need to be rebuilt.

So, while there may be ways to avoid costs, none will produce the benefits of the proposed truck-only road. And, the truck-only road will not just be an investment in transportation infrastructure, it will provide improved drainage at a number of rail underpasses which have been a chronic problem for years. Further, the development of a sound-attenuating wall along the truck-only road will help shield the area from both truck and rail noise as train movements will likely double over the next 25 years between Rail Strategy 3 and the No-Action alternative.

3.1.2 Lonyo and Central

The community will benefit by grade separating Lonyo and Central so they go under the rail yard (Figures 3-3 and 3-4). If the DIFT project goes forward, the cost of these two improvements, combined, represents an investment of between $42 (Rail Strategy 2) and $75 million (Rail Strategy 3), exclusive of right-of-way. These improvements allow the efficient assembly of one-mile-long trains, several at a time, dozens of times per day. These costs could be avoided by not closing Lonyo and Central. But, that approach has major negative impacts on community cohesion, access by emergency services, and other neighborhood issues.

Table 3-1
DIFT Feasibility Study
Consultant's Conclusions
Roadway Improvement Proposals

Roadway Proposal / Rail Alternative	Truck-Only Road	Perimeter Road/Buffer	Grade Separations at Lonyo and Central	I-94/Livernois Interchange	Traffic Engineering Improvements
RS 1	■ Will not happen.	■ Will not happen.	■ Will not happen.	■ May happen with I-94 rehabilitation.	■ Needed regardless of terminal expansion.
RS 2	■ Not likely. ✓ Only carries 120± DIFT trucks in peak hour @ cost of $40 to $46 million. ✓ Little effect on city streets.	■ Will not happen.	■ Not likely. ✓ Not needed for roadway traffic. ✓ Not cost-effective at $42 million for 35 to 40 percent increase in terminal activity vs. RS 1.	■ Likely to be coordinated with I-94 rehabilitation.	■ Needed regardless of terminal expansion.
RS 3	■ Likely. ✓ Carries 600± DIFT trucks in peak hour. ✓ Major positive effect by reducing DIFT trucks on Livernois/ Dragoon.	■ Likely. ✓ Buffers community from terminal effects. ✓ Puts northern "edge" on terminal ✓ Allows Kronk to become internal-terminal road.	■ Likely. ✓ Terminal activity growth of 115 percent vs. RS 1 requires improvements.	■ Likely to be coordinated with I-94 rehabilitation.	■ Needed regardless of terminal expansion.

Source: The Corradino Group of Michigan, Inc.